| L Number | Hits | Search Text | DB | Time stamp |
|---|---|---|---|---|
| 1 | 22 | perlin-kenneth.in. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 08:32 |
| 2 | 12 | "perlin noise" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 08:33 |
| 3 | 1 | 345/581.ccls. and (grid adj artifacts) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:50 |
| 4 | 1 | 345/581.ccls. and (bit adj manipulat$3) and pattern | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:03 |
| 5 | 4 | 345/581.ccls. and (bit near3 manipulat$3) and pattern | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 08:38 |
| 6 | 16 | 345/581.ccls. and (noise and bit and pattern) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 08:38 |
| 7 | 546 | (bit adj manipulat$3) and pattern | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:03 |
| 8 | 232 | ((bit adj manipulat$3) and pattern) and noise | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:06 |
| 11 | 28 | (((bit adj manipulat$3) and pattern) and noise) and (345/$.ccls. or 382/$.ccls. or 348/$.ccls. or 358/$.ccls. or 463/$.ccls.) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:07 |
| 13 | 0 | 345/582.ccls. and (grid adj artifacts) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:51 |
| 12 | 22 | 345/582.ccls. and (noise and bit and pattern) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:57 |
| 14 | 131 | 345/643.ccls. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:51 |

| 15 | 0 | 345/643.ccls. and "integer lattice" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:29 |
|---|---|---|---|---|
| 16 | 61 | "integer lattice" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:29 |
| 17 | 0 | 345/428.ccls. and "grid artifact" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:40 |
| 18 | 70 | 345/428.ccls. and artifact | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:41 |
| 19 | 1 | (345/582.ccls. or 345/581.ccls. or 345/428.ccls.) and "simplicial grid" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:41 |
| 20 | 0 | (skew adj point) same grid | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:41 |
| 21 | 7 | (skew adj3 point) same grid | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:43 |
| 22 | 24 | hypercube same (simplices or simplex) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:45 |
| 23 | 192 | hypercube and (simplices or simplex) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:45 |
| 24 | 29 | (hypercube and (simplices or simplex)) and noise | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:48 |
| 25 | 1 | ((hypercube and (simplices or simplex)) and noise) and (345/$.ccls. or 382/$.ccls. or 348/$.ccls. or 358/$.ccls. or 463/$.ccls.) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:49 |
| - | 17 | perlin-kenneth.in. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 08:32 |
| - | 8 | "perlin noise" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 08:32 |

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|---|---|---|---|---|---|
| - | 1 | 345/581.ccls. and (grid adj artifacts) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 08:34 | |
| - | 54 | 345/581.ccls. and (grid) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 09:13 | |
| - | 98 | 345/582.ccls. and (grid) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:50 | |
| - | 0 | 345/582.ccls. and (grid adj artifact) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/14 10:34 | |
| - | 17 | grid adj artifact | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/14 10:39 | |
| - | 110 | 345/643.ccls. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 09:51 | |
| - | 0 | 345/643.ccls. and "integer lattice" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:29 | |
| - | 386 | 345/428.ccls. | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 08:47 | |
| - | 86 | 345/428.ccls. and grid | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 08:47 | |
| - | 0 | 345/428.ccls. and "grid artifact" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:40 | |
| - | 43 | 345/428.ccls. and noise | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 08:47 | |
| - | 55 | 345/428.ccls. and artifact | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:40 | |
| - | 37 | 345/581.ccls. and noise | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 09:13 | |

| - | 36 | 345/582.ccls. and noise | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 09:19 |
|---|-----|-------------------------------------------------------------|-------------------------------------|------------------------|
| - | 10 | "2177577" | USPAT; US-PGPUB; DERWENT | 2003/07/23 09:59 |
| - | 80 | (345/$.ccls. or 382/$.ccls.) and ("stochastic" adj sampl$3) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 10:01 |
| - | 0 | GB2177577 | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 10:01 |
| - | 52 | (345/$.ccls. or 382/$.ccls.) and "stochastic sampling" | USPAT; US-PGPUB; DERWENT | 2003/07/23 10:52 |
| - | 6 | ("4343037" \| "4615013" \| "4782387" \| "4965667" \| "5034814" \| "5043810").PN. | USPAT | 2003/07/23 10:14 |
| - | 1 | (345/$.ccls. or 382/$.ccls.) and "visually isotropic" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 14:07 |
| - | 663 | (345/$.ccls. or 382/$.ccls.) and "isotropic" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 15:02 |
| - | 1 | (345/$.ccls. or 382/$.ccls.) and "simplicial grid" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2004/10/06 10:41 |
| - | 41 | (345/$.ccls. or 382/$.ccls.) and "simplicial" | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/07/23 15:04 |

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**1**  Perlin noise pixel shaders                                               ▦
John C. Hart
August 2001 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**

Full text available: 🔲 pdf(919.41 KB)   Additional Information: full citation, abstract, references, citings, index terms

While working on a method for supporting real-time procedural solid texturing, we developed a general purpose multipass pixel shader to generate the Perlin noise function. We implemented this algorithm on SGI workstations using accelerated OpenGL PixelMap and PixelTransfer operations, achieving a rate of 2.5 Hz for a 256x256 image. We also implemented the noise algorithm on the NVidia GeForce2 using register combiners. Our register combiner implementation required 375 passes, but ran at 1.3 H ...

**Keywords**: Perlin noise function, hardware shading, pixel shaders, register combiners

**2**  Algorithms for solid noise synthesis                                     ▦
J. P. Lewis
July 1989 **ACM SIGGRAPH Computer Graphics , Proceedings of the 16th annual conference on Computer graphics and interactive techniques**, Volume 23 Issue 3

Full text available: 🔲 pdf(4.69 MB)   Additional Information: full citation, abstract, references, citings, index terms

A solid noise is a function that defines a random value at each point in space. Solid noises have immediate and powerful applications in surface texturing, stochastic modeling, and the animation of natural phenomena.Existing solid noise synthesis algorithms are surveyed and two new algorithms are presented. The first uses Wiener interpolation to interpolate random values on a discrete lattice. The second is an efficient sparse convolution algorithm. Both algorithms are developed for *model-dir* ...

**3**  Improving noise                                                          ▦
Ken Perlin
July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques**, Volume 21 Issue 3

Full text available: 🔲 pdf(394.25 KB)   Additional Information: full citation, abstract, references, citings, index terms

Two deficiencies in the original Noise algorithm are corrected: second order interpolation discontinuity and unoptimal gradient computation. With these defects corrected, Noise both looks better and runs faster. The latter change also makes it easier to define a uniform mathematical reference standard.

**Keywords**: procedural texture

**4** Procedural texture mapping on FPGAs

Andy G. Ye, David M. Lewis

February 1999 **Proceedings of the 1999 ACM/SIGDA seventh international symposium on Field programmable gate arrays**

Full text available: pdf(1.05 MB)      Additional Information: full citation, references, index terms


**5** Procedural modeling & animation: Advected textures

Fabrice Neyret

July 2003 **Proceedings of the 2003 ACM SIGGRAPH/Eurographics Symposium on Computer Animation**

Full text available: pdf(5.56 MB)      Additional Information: full citation, abstract, references, citings

Game and special effects artists like to rely on textures (image or procedural) to specify the details of surface aspect. In this paper, we address the problem of applying **textures** to **animated fluids**. The purpose is to allow artists to increase the details of flowing water, foam, lava, mud, flames, cloud layers, etc.Our first contribution is a new algorithm for **advecting textures**, which compromises between two contradictory requirements: continuity in space and time and pres ...


**6** Spot noise texture synthesis for data visualization

Jarke J. van Wijk

July 1991 **ACM SIGGRAPH Computer Graphics , Proceedings of the 18th annual conference on Computer graphics and interactive techniques**, Volume 25 Issue 4

Full text available: pdf(8.67 MB)      Additional Information: full citation, abstract, references, citings, index terms

The use of stochastic texture for the visualization of scalar and vector fields over surfaces is discussed. Current techniques for texture synthesis are not suitable, because they do not provide local control, and are not suited for the design of textures. A new technique, *spot noise*, is presented that does provide these features. Spot noise is synthesized by addition of randomly weighted and positioned spots. Local control of the texture is realized by variation of the spot. The spot is ...

**Keywords**: flow visualization, fractals, particle systems, scientific visualization, texture synthesis


**7** The synthesis and rendering of eroded fractal terrains

F. K. Musgrave, C. E. Kolb, R. S. Mace

July 1989 **ACM SIGGRAPH Computer Graphics , Proceedings of the 16th annual conference on Computer graphics and interactive techniques**, Volume 23 Issue 3

Full text available: pdf(5.83 MB)      Additional Information: full citation, abstract, references, citings, index terms

In standard fractal terrain models based on fractional Brownian motion the statistical character of the surface is, by design, the same everywhere. A new approach to the synthesis of fractal terrain height fields is presented which, in contrast to previous techniques, features locally independent control of the frequencies composing the surface, and thus local control of fractal dimension and other statistical characteristics. The new technique, termed *noise synthesis*, is intermediate in ...


**8** Sampling procedural shaders using affine arithmetic

Wolfgang Heidrich, Philipp Slusallek, Hans-Peter Seidel

July 1998 **ACM Transactions on Graphics (TOG)**, Volume 17 Issue 3

Full text available: pdf(590.82 KB)      Additional Information: full citation, abstract, references, citings, index terms

Procedural shaders have become popular tools for describing surface reflectance functions and other material properties. In comparison to fixed resolution textures, they have the advantage of being resolution-independent and storage-efficient.While procedural shaders provide an interface for evaluating the shader at a single point, it is not easily possible to obtain an average value of the shader together with accurate error bounds over a finite

area. Yet the ability to compute ...

**Keywords**: affine arithmetic

## 9  Real-time bump map synthesis

Jan Kautz, Wolfgang Heidrich, Hans-Peter Seidel

August 2001 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**

Full text available: pdf(764.07 KB)　　Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>

In this paper we present a method that automatically synthesizes bump maps at arbitrary levels of detail in real-time. The only input data we require is a normal density function; the bump map is generated according to that function. It is also used to shade the generated bump map.

The technique allows to infinitely zoom into the surface, because more (consistent) detail can be created on the fly. The shading of such a surface is consistent when displayed at different distances to the ...

## 10  Procedural modeling & animation: A real-time cloud modeling, rendering, and animation system

Joshua Schpok, Joseph Simons, David S. Ebert, Charles Hansen

July 2003 **Proceedings of the 2003 ACM SIGGRAPH/Eurographics Symposium on Computer Animation**

Full text available: pdf(1.18 MB)　　Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>

Modeling and animating complex volumetric natural phenomena, such as clouds, is a difficult task. Most systems are difficult to use, require adjustment of numerous, complex parameters, and are non-interactive. Therefore, we have developed an intuitive, interactive system to artistically model, animate, and render visually convincing volumetric clouds using modern consumer graphics hardware. Our natural, high-level interface models volumetric clouds through the use of qualitative cloud attributes ...

**Keywords**: cloud animation, cloud modeling, procedural animation, volume rendering

## 11  A cellular texture basis function

Steven Worley

August 1996 **Proceedings of the 23rd annual conference on Computer graphics and interactive techniques**

Full text available: pdf(66.92 KB)　　Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

## 12  Antialiased parameterized solid texturing simplified for consumer-level hardware implementation

John C. Hart, Nate Carr, Masaki Kameya, Stephen A. Tibbitts, Terrance J. Coleman

July 1999 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**

Full text available: pdf(1.86 MB)　　Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

**Keywords**: antialiasing, hardware, procedural texturing, solid texturing

## 13  Rendering II: Second order image statistics in computer graphics

Erik Reinhard, Peter Shirley, Michael Ashikhmin, Tom Troscianko

August 2004 **Proceedings of the 1st Symposium on Applied perception in graphics and visualization**

Full text available: pdf(586.77 KB)　　Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>

The class of all natural images is an extremely small fraction of all possible images. Some of the structure of natural images can be modeled statistically, revealing striking regularities. Moreover, the human visual system appears to be optimized to view natural images. Images that do not behave statistically as natural images are harder for the human visual system to interpret. This paper reviews second order image statistics as well as their implications for computer graphics. We show that th ...

## 14 Shading and shaders: Shader metaprogramming

Michael D. McCool, Zheng Qin, Tiberiu S. Popa

September 2002 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS conference on Graphics hardware**

Full text available: pdf(630.20 KB)     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Modern graphics accelerators have embedded programmable components in the form of vertex and fragment shading units. Current APIs permit specification of the programs for these components using an assembly-language level interface. Compilers for high-level shading languages are available but these read in an external string specification, which can be inconvenient.It is possible, using standard C++, to define a high-level shading language directly in the API. Such a language can be nearly indist ...

## 15 Motion texture: a two-level statistical model for character motion synthesis

Yan Li, Tianshu Wang, Heung-Yeung Shum

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques**, Volume 21 Issue 3

Full text available: pdf(5.06 MB)     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

In this paper, we describe a novel technique, called motion texture, for synthesizing complex human-figure motion (e.g., dancing) that is statistically similar to the original motion captured data. We define motion texture as a set of motion textons and their distribution, which characterize the stochastic and dynamic nature of the captured motion. Specifically, a motion texton is modeled by a linear dynamic system (LDS) while the texton distribution is represented by a transition matrix indicat ...

**Keywords**: linear dynamic systems, motion editing, motion synthesis, motion texture, texture synthesis

## 16 Comparing LIC and spot noise

Wim de Leeuw, Robert van Liere

October 1998 **Proceedings of the conference on Visualization '98**

Full text available: pdf(1.23 MB)     Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>
Publisher Site

**Keywords**: flow visualization, texture synthesis

## 17 Multi-frequency noise for LIC

Ming-Hoe Kiu, David C. Banks

October 1996 **Proceedings of the 7th conference on Visualization '96**

Full text available: pdf(8.50 MB)     Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>
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## 18 Structural modeling of flames for a production environment

Arnauld Lamorlette, Nick Foster

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques**, Volume 21 Issue 3

In this paper we describe a system for animating flames. Stochastic models of flickering and buoyant diffusion provide realistic local appearance while physics-based wind fields and Kolmogorov noise add controllable motion and scale. Procedural mechanisms are developed for animating all aspects of flame behavior including moving sources, combustion spread, flickering, separation and merging, and interaction with stationary objects. At all stages in the process the emphasis is on total artistic a ...

**Keywords**: animation systems, convection, fire, flames, kolmogorov spectrum, physically-based modeling, wind fields

## 19 Global illumination using local linear density estimation

Bruce Walter, Philip M. Hubbard, Peter Shirley, Donald P. Greenberg
July 1997  **ACM Transactions on Graphics (TOG)**, Volume 16 Issue 3

This article presents the density estimation framework for generating view-independent global illumination solutions. It works by probabilistically simulating the light flow in an environment with light particles that trace random walks origination at luminaires and then using statistical density estimation techniques to reconstruct the lighting on each surface. By splitting the computation into separate transport and reconstruction stages, we gain many advantages including reduced memory u ...

**Keywords**: decimation, density estimation, particle tracing, realistic image synthesis, regression

## 20 Real-time procedural textures

John Rhoades, Greg Turk, Andrew Bell, Andrei State, Ulrich Neumann, Amitabh Varshney
June 1992 **Proceedings of the 1992 symposium on Interactive 3D graphics**

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Terms used **perlin** **noise** **lattice** **bit** **pattern**                    Found **3** of **143,484**

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**1** Perlin noise pixel shaders                                                                ▓
John C. Hart
August 2001 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**
Full text available: 📄 pdf(919.41 KB)      Additional Information: full citation, abstract, references, citings, index terms

While working on a method for supporting real-time procedural solid texturing, we developed a general purpose multipass pixel shader to generate the Perlin noise function. We implemented this algorithm on SGI workstations using accelerated OpenGL PixelMap and PixelTransfer operations, achieving a rate of 2.5 Hz for a 256x256 image. We also implemented the noise algorithm on the NVidia GeForce2 using register combiners. Our register combiner implementation required 375 passes, but ran at 1.3 H ...

**Keywords**: Perlin noise function, hardware shading, pixel shaders, register combiners

**2** A cellular texture basis function                                                          ▨
Steven Worley
August 1996 **Proceedings of the 23rd annual conference on Computer graphics and interactive techniques**
Full text available: 📄 pdf(66.92 KB)      Additional Information: full citation, references, citings, index terms

**3** Sculpting: an interactive volumetric modeling technique                                    ▬
Tinsley A. Galyean, John F. Hughes
July 1991 **ACM SIGGRAPH Computer Graphics , Proceedings of the 18th annual conference on Computer graphics and interactive techniques**, Volume 25 Issue 4
Full text available: 📄 pdf(8.21 MB)      Additional Information: full citation, abstract, references, citings, index terms

We present a new interactive modeling technique based on the notion of sculpting a solid material. A sculpting tool is controlled by a 3D input device and the material is represented by voxel data; the tool acts by modifying the values in the voxel array, much as a "paint" program's "paintbrush" modifies bitmap values. The voxel data is converted to a polygonal surface using a "marching-cubes" algorithm; since the modifications to the voxel data are local, we accelerate this computation by an in ...

**Keywords**: 3D interaction, antialiasing, free-form modeling, sculpting, volumetric data

Results 1 - 3 of 3

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Terms used **lattice** **bit** **pattern** **gradient**                    Found **46** of **143,484**

**1** Second-generation image coding: an overview                                          ▬
M. M. Reid, R. J. Millar, N. D. Black
March 1997 **ACM Computing Surveys (CSUR)**, Volume 29 Issue 1

Full text available: 📄 pdf(12.23 MB)   Additional Information: full citation, abstract, references, index terms, review

This article gives an overview of a diverse selection of currently used second-generation image coding techniques. These techniques have been grouped into similar categories in order to allow a direct comparison among the varying methods. An attempt has been made, where possible, to expand upon and clarify the details given by the original authors. The relative merits ans shortcomings of each of the techniques are compared and contrasted.

**Keywords**: MRi, compression, image coding

**2** HPFBench: a high performance Fortran benchmark suite                                     ▦
Y. Charlie Hu, Guohua Jin, S. Lennart Johnsson, Dimitris Kehagias, Nadia Shalaby
March 2000 **ACM Transactions on Mathematical Software (TOMS)**, Volume 26 Issue 1

Full text available: 📄 pdf(274.52 KB)   Additional Information: full citation, abstract, references, index terms

The high performance Fortran (HPF) benchmark suite HPFBench is designed for evaluating the HPF language and compilers on scalable architectures. The functionality of the benchmarks covers scientific software library functions and application kernels that reflect the computational structure and communication patterns in fluid dynamic simulations, fundamental physics, and molecular studies in chemistry and biology. The benchmarks are characterized in terms of FLOP count, memory usage, communi ...

**Keywords**: benchmarks, compilers, high performance Fortran

**3** Element order and convergence rate of the conjugate gradient method for data parallel ▦ stress analysis
K. K. Mathur, S. L. Johnsson
August 1989 **Proceedings of the 1989 ACM/IEEE conference on Supercomputing**

Full text available: 📄 pdf(614.54 KB)   Additional Information: full citation, abstract, references, index terms

A data parallel formulation of the finite element method is described. The data structures and the algorithms for stiffness matrix generation and the solution of the equilibrium equations are presented briefly. The generation of the elemental stiffness matrices requires no communication, even though each finite element is distributed over several processors. The conjugate gradient method with a diagonal preconditioner has been used for the solution of the resulting sparse linear system. Thi ...

**4** What have we learnt from using real parallel machines to solve real problems?              ▬

G. C. Fox
January 1989 **Proceedings of the third conference on Hypercube concurrent computers and applications - Volume 2**

Full text available: pdf(4.08 MB)     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

We briefly review some key scientific and parallel processing issues in a selection of some 84 existing applications of parallel machines. We include the MIMD hypercube transputer array, BBN Butterfly, and the SIMD ICL DAP, Goodyear MPP and Connection Machine from Thinking Machines. We use a space-time analogy to classify problems and show how a division into synchronous, loosely synchronous and asynchronous problems is helpful. This classifies problems into those suitable for SIMD or MIMD ...

**5** <u>Rendering and simulation: Physically-based visual simulation on graphics hardware</u>
Mark J. Harris, Greg Coombe, Thorsten Scheuermann, Anselmo Lastra
September 2002 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS conference on Graphics hardware**

Full text available: pdf(2.65 MB)     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

In this paper, we present a method for real-time visual simulation of diverse dynamic phenomena using programmable graphics hardware. The simulations we implement use an extension of cellular automata known as the coupled map lattice (CML). CML represents the state of a dynamic system as continuous values on a discrete lattice. In our implementation we store the lattice values in a texture, and use pixel-level programming to implement simple next-state computations on lattice nodes and their nei ...

**Keywords:** CML, coupled map lattice, graphics hardware, multipass rendering, reaction-diffusion, visual simulation

**6** <u>Supercomputing and transputers</u>
Falk Langhammer, Francis Wray
August 1992 **Proceedings of the 6th international conference on Supercomputing**

Full text available: pdf(1.72 MB)     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>

It will be studied which degree parallel supercomputers can be scaled to. Necessary measures to achieve a maximum scalability will be discussed, and a case-study be presented. To this purpose, a new class of "supermassively parallel architectures" is introduced, and the notation of scalable architectures will be extended to reflect the impact of technological progress onto cost-functions. For systems in this class, the performance efficiency of applications is discussed and two ...

**7** <u>Load balancing loosely synchronous problems with a neural network</u>
G. C. Fox, W. Furmanski
January 1988 **Proceedings of the third conference on Hypercube concurrent computers and applications: Architecture, software, computer systems, and general issues - Volume 1**

Full text available: pdf(2.90 MB)     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Hopfield and Tank have introduced the use of neural networks for the solution of optimization problems such as the traveling salesman problem. Here we show how to generalize this method to decompose loosely synchronous problems onto parallel machines and in particular the hypercube. In this case, decomposition or load balancing can be formulated graph theoretically in terms of optimal partitioning of the computational graph into $N = 2$

**8** <u>A special purpose LSI processor using the DDA algorithm for image transformation</u>
Katsura Kawakami, Shigeo Shimazaki
January 1984 **ACM SIGARCH Computer Architecture News , Proceedings of the 11th annual international symposium on Computer architecture,** Volume 12 Issue 3

Full text available: pdf(772.26 KB)     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>

A new special purpose processor, named MN8614, has been developed for the high speed

execution of binary image transformations. The processor carrys out the processing based on a new extension of the DDA algorithm to reduce the number of multiplications required for image processing. In addition, a machine instruction set has been developed which makes optimal use of the new method. The processor is fabricated on a single LSI chip with 16-bit data paths. Although the basic chip design is th ...

**9** <u>From Electron Mobility to Logical Structure: A View of Integrated Circuits</u>
Wesley A. Clark
September 1980 **ACM Computing Surveys (CSUR)**, Volume 12 Issue 3

Full text available: <u>pdf(3.29 MB)</u>     Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

**10** <u>Nonlinear optimization framework for image-based modeling on programmable graphics hardware</u>
Karl E. Hillesland, Sergey Molinov, Radek Grzeszczuk
July 2003   **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Full text available: <u>pdf(1.32 MB)</u>     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Graphics hardware is undergoing a change from fixed-function pipelines to more programmable organizations that resemble general purpose stream processors. In this paper, we show that certain general algorithms, not normally associated with computer graphics, can be mapped to such designs. Specifically, we cast nonlinear optimization as a data streaming process that is well matched to modern graphics processors. Our framework is particularly well suited for solving image-based modeling problems s ...

**Keywords**: image-based modeling, nonlinear optimization, programmable graphics hardware

**11** <u>Sparse matrix solvers on the GPU: conjugate gradients and multigrid</u>
Jeff Bolz, Ian Farmer, Eitan Grinspun, Peter Schröoder
July 2003   **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Full text available: <u>pdf(753.59 KB)</u>     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Many computer graphics applications require high-intensity numerical simulation. We show that such computations can be performed efficiently on the GPU, which we regard as a full function *streaming* processor with high floating-point performance. We implemented two basic, broadly useful, computational kernels: a *sparse matrix conjugate gradient solver* and a regular-grid *multigrid solver*. Real time applications ranging from mesh smoothing and parameterization to fluid solvers ...

**Keywords**: GPU computing, Navier-Stokes, conjugate gradient, fluid simulation, mesh smoothing, multigrid, numerical simulation

**12** <u>Topological considerations in isosurface generation</u>
Allen van Gelder, Jane Wilhelms
October 1994 **ACM Transactions on Graphics (TOG)**, Volume 13 Issue 4

Full text available: <u>pdf(4.25 MB)</u>     Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>, <u>review</u>

A popular technique for rendition of isosurfaces in sampled data is to consider cells with sample points as corners and approximate the isosurface in each cell by one or more polygons whose vertices are obtained by interpolation of the sample data. That is, each polygon vertex is a point on a cell edge, between two adjacent sample points, where the function is estimated to equal the desired threshold value. The two sample points have values on opposite sides of the threshold, and the interp ...

**Keywords**: ambiguity, isosurface extraction, scientific visualization, surface fitting, surface topology

**13** <u>Routing: Routing using potentials: a dynamic traffic-aware routing algorithm</u>

Anindya Basu, Alvin Lin, Sharad Ramanathan

August 2003 **Proceedings of the 2003 conference on Applications, technologies, architectures, and protocols for computer communications**

Full text available: pdf(529.83 KB)    Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>

We present a routing paradigm called PBR that utilizes steepest gradient search methods to route data packets. More specifically, the PBR paradigm assigns scalar potentials to network elements and forwards packets in the direction of maximum positive force. We show that the family of PBR schemes are loop free and that the standard shortest path routing algorithms are a special case of the PBR paradigm. We then show how to design a potential function that accounts for traffic conditions at a node ...

**Keywords**: congestion, gradient, potential, routing, steepest, traffic aware

**14** <u>Gross motion planning—a survey</u>

Yong K. Hwang, Narendra Ahuja

September 1992 **ACM Computing Surveys (CSUR)**, Volume 24 Issue 3

Full text available: pdf(6.40 MB)    Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>, <u>review</u>

Motion planning is one of the most important areas of robotics research. The complexity of the motion-planning problem has hindered the development of practical algorithms. This paper surveys the work on gross-motion planning, including motion planners for point robots, rigid robots, and manipulators in stationary, time-varying, constrained, and movable-object environments. The general issues in motion planning are explained. Recent approaches and their performances are briefly described, a ...

**Keywords**: collision detection, computational geometry, implementation, motion planning, obstacle avoidance, path planning, spatial representation

**15** <u>QCDSP: a Teraflop scale massively parallel supercomputer</u>

Dong Chen, Ping Chen, Norman H. Christ, Robert G. Edwards, George Fleming, Alan Gara, Sten Hansen, Chulwoo Jung, Adrian Kahler, Stephen Kasow, Anthony D. Kennedy, Greg Kilcup, Yu Bing Luo, Catalin Malureanu, Robert D. Mawhinney, John Parsons, Jim Sexton, ChengZhong Sui, Pavlos Vranas

November 1997 **Proceedings of the 1997 ACM/IEEE conference on Supercomputing (CDROM)**

Full text available: pdf(85.03 KB)    Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>

We discuss the work of the QCDSP collaboration to build an inexpensive Teraflop scale massively parallel computer suitable for computations in Quantum Chromodynamics (QCD). The computer is a collection of nodes connected in a four dimensional toroidial grid with nearest neighbor bit serial communications. A node is composed of a Texas Instruments Digital Signal Processor (DSP), memory, and a custom made communications and memory controller chip. An 8192 node computer with a peak speed of 0.4 Ter ...

**Keywords**: QCD, digital signal processor, parallel, supercomputer

**16** <u>A cellular texture basis function</u>

Steven Worley

August 1996 **Proceedings of the 23rd annual conference on Computer graphics and interactive techniques**

Full text available: pdf(66.92 KB)    Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

**17** <u>Introduction & overview of "artificial life"—evolving intelligent agents for modeling &</u>

simulation
A. Martin Wildberger
November 1996 **Proceedings of the 28th conference on Winter simulation**

Full text available: 📄 pdf(987.66 KB)     Additional Information: full citation, references

**18** Representation of Three-Dimensional Digital Images
Sargur N. Srihari
December 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 4

Full text available: 📄 pdf(2.36 MB)     Additional Information: full citation, references, citings, index terms

**19** Making faces
Brian Guenter, Cindy Grimm, Daniel Wood, Henrique Malvar, Fredric Pighin
July 1998  **Proceedings of the 25th annual conference on Computer graphics and interactive techniques**

Full text available: 📄 pdf(1.70 MB)     Additional Information: full citation, references, citings, index terms

**20** Rendering II: Subband encoding of high dynamic range imagery
Greg Ward, Maryann Simmons
August 2004 **Proceedings of the 1st Symposium on Applied perception in graphics and visualization**

Full text available: 📄 pdf(1.14 MB)     Additional Information: full citation, abstract, references, index terms

The transition from traditional 24-bit RGB to high dynamic range (HDR) images is hindered by excessively large file formats with no backwards compatibility. In this paper, we propose a simple approach to HDR encoding that parallels the evolution of color television from its grayscale beginnings. A tone-mapped version of each HDR original is accompanied by restorative information carried in a subband of a standard 24-bit RGB format. This subband contains a compressed *ratio image*, which whe ...

**Keywords**: high dynamic range image formats, image processing, lossy compression

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**1** <u>Second-generation image coding: an overview</u>
M. M. Reid, R. J. Millar, N. D. Black
March 1997 **ACM Computing Surveys (CSUR)**, Volume 29 Issue 1

Full text available: 📄 <u>pdf(12.23 MB)</u>   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>, <u>review</u>

This article gives an overview of a diverse selection of currently used second-generation image coding techniques. These techniques have been grouped into similar categories in order to allow a direct comparison among the varying methods. An attempt has been made, where possible, to expand upon and clarify the details given by the original authors. The relative merits ans shortcomings of each of the techniques are compared and contrasted.

**Keywords**: MRi, compression, image coding

**2** <u>A cellular texture basis function</u>
Steven Worley
August 1996 **Proceedings of the 23rd annual conference on Computer graphics and interactive techniques**
Full text available: 📄 <u>pdf(66.92 KB)</u>   Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

**3** <u>Load balancing loosely synchronous problems with a neural network</u>
G. C. Fox, W. Furmanski
January 1988 **Proceedings of the third conference on Hypercube concurrent computers and applications: Architecture, software, computer systems, and general issues - Volume 1**

Full text available: 📄 <u>pdf(2.90 MB)</u>   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Hopfield and Tank have introduced the use of neural networks for the solution of optimization problems such as the traveling salesman problem. Here we show how to generalize this method to decompose loosely synchronous problems onto parallel machines and in particular the hypercube. In this case, decomposition or load balancing can be formulated graph theoretically in terms of optimal partitioning of the computational graph into $N = 2$

**4** <u>System architectures for computer music</u>
John W. Gordon
June 1985 **ACM Computing Surveys (CSUR)**, Volume 17 Issue 2

Full text available: 📄 <u>pdf(4.61 MB)</u>   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>, <u>review</u>

Computer music is a relatively new field. While a large proportion of the public is aware of computer music in one form or another, there seems to be a need for a better

understanding of its capabilities and limitations in terms of synthesis, performance, and recording hardware. This article addresses that need by surveying and discussing the architecture of existing computer music systems. System requirements vary according to what the system will be used for. Common uses for co ...

**5** What have we learnt from using real parallel machines to solve real problems?
G. C. Fox
January 1989 **Proceedings of the third conference on Hypercube concurrent computers and applications - Volume 2**

Full text available: pdf(4.08 MB)    Additional Information: full citation, abstract, references, citings, index terms

We briefly review some key scientific and parallel processing issues in a selection of some 84 existing applications of parallel machines. We include the MIMD hypercube transputer array, BBN Butterfly, and the SIMD ICL DAP, Goodyear MPP and Connection Machine from Thinking Machines. We use a space-time analogy to classify problems and show how a division into synchronous, loosely synchronous and asynchronous problems is helpful. This classifies problems into those suitable for SIMD or MIMD ...

**6** Sparse matrix solvers on the GPU: conjugate gradients and multigrid
Jeff Bolz, Ian Farmer, Eitan Grinspun, Peter Schröoder
July 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Full text available: pdf(753.59 KB)    Additional Information: full citation, abstract, references, citings, index terms

Many computer graphics applications require high-intensity numerical simulation. We show that such computations can be performed efficiently on the GPU, which we regard as a full function *streaming* processor with high floating-point performance. We implemented two basic, broadly useful, computational kernels: a *sparse matrix conjugate gradient solver* and a regular-grid *multigrid solver*. Real time applications ranging from mesh smoothing and parameterization to fluid solvers ...

**Keywords**: GPU computing, Navier-Stokes, conjugate gradient, fluid simulation, mesh smoothing, multigrid, numerical simulation

**7** Quadrature prefiltering for high quality antialiasing
Brian Guenter, Jack Tumblin
October 1996 **ACM Transactions on Graphics (TOG)**, Volume 15 Issue 4

Full text available: pdf(2.09 MB)    Additional Information: full citation, abstract, references, citings, index terms

This article introduces quadrature prefiltering, an accurate, efficient, and fairly simple algorithm for prefiltering polygons for scanline rendering. It renders very high quality images at reasonable cost, strongly suppressing aliasing artifacts. For equivalent RMS error, quadrature prefiltering is significantly faster than either uniform or jittered supersampling. Quadrature prefiltering is simple to implement and space-efficient; it needs only a small two-dimensional lookup table, even w ...

**Keywords**: antialiasing, prefiltering

**8** Introduction & overview of "artificial life"—evolving intelligent agents for modeling & simulation
A. Martin Wildberger
November 1996 **Proceedings of the 28th conference on Winter simulation**

Full text available: pdf(987.66 KB)    Additional Information: full citation, references

**9** Making faces
Brian Guenter, Cindy Grimm, Daniel Wood, Henrique Malvar, Fredric Pighin

**10** <u>Rendering II: Subband encoding of high dynamic range imagery</u>

Greg Ward, Maryann Simmons

August 2004 **Proceedings of the 1st Symposium on Applied perception in graphics and visualization**

Full text available: pdf(1.14 MB)      Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>

The transition from traditional 24-bit RGB to high dynamic range (HDR) images is hindered by excessively large file formats with no backwards compatibility. In this paper, we propose a simple approach to HDR encoding that parallels the evolution of color television from its grayscale beginnings. A tone-mapped version of each HDR original is accompanied by restorative information carried in a subband of a standard 24-bit RGB format. This subband contains a compressed *ratio image*, which whe ...

**Keywords**: high dynamic range image formats, image processing, lossy compression

**11** <u>Session 4: video processing and transformation: Painting with looks: photographic images from video using quantimetric processing</u>

Steve Mann, Corey Manders, James Fung

December 2002 **Proceedings of the tenth ACM international conference on Multimedia**

Full text available: pdf(861.14 KB)      Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>

When we ask the fundamental question "What does a camera measure?", we arrive at the concept of quantimetric imaging, which uses a new quantimetric unit, $q$, characteristic of a particular camera (e.g. each kind of camera defines its own quantimetric unit $q$ based on its spectral response, etc.). Fluctuations in interframe exposures, along a sequence of images, give rise to a *comparametric* relationship between successive pairs of images. This allows us to estimate the response ...

**Keywords**: comparametric equations, comparametrics, image processing, multiple exposures, video

**12** <u>Interval volume: a solid fitting technique for volumetric data display and analysis</u>

I. Fujishiro, Y. Maeda, H. Sato

October 1995 **Proceedings of the 6th conference on Visualization '95**

Full text available: pdf(1.15 MB)  Additional Information: <u>full citation</u>, <u>abstract</u>

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Proposes as a generalization of isosurfaces, the 'interval volume', which is a new type of geometric model representing 3D subvolumes with field values belonging to a closed interval. A dominant surface fitting algorithm called 'marching cubes' is extended to obtain a solid fitting algorithm, which extracts from a given volumetric dataset a high-resolution polyhedral solid data structure of the interval volume. Rendering methods for the interval volume and principal related operations are also p ...

**Keywords**: 3D subvolumes, 4D simulated data, atomic collisions, closed interval, data analysis, data visualisation, dominant surface fitting algorithm, field values, geometric model, high-resolution polyhedral solid data structure extraction, interval volume, isosurfaces, marching cubes algorithm, physics computing, rendering (computer graphics), rendering methods, solid fitting technique, solid modelling, surface fitting, volumetric data analysis, volumetric data display, volumetric dataset

**13** <u>Bibliography of recent publications on computer communication</u>

Martha Steenstrup

Full text available:  pdf(2.02 MB)     Additional Information: full citation, abstract, index terms

The quantitative results presented in our SIGCOMM '97 paper [1] include numerous minor errors. These errors were caused by programming bugs that led to faulty analyses and simulations, and by inaccurate transcriptions during the preparation of the paper. Here we present corrected figures and tables, as well as corrections to values that appeared in the text of the original paper. The effect of correcting the errors is to reduce the differences between the results based on the proxy trace and tho ...

## 14 Sculpting: an interactive volumetric modeling technique

Tinsley A. Galyean, John F. Hughes
Full text available: pdf(8.21 MB)     Additional Information: full citation, abstract, references, citings, index terms

We present a new interactive modeling technique based on the notion of sculpting a solid material. A sculpting tool is controlled by a 3D input device and the material is represented by voxel data; the tool acts by modifying the values in the voxel array, much as a "paint" program's "paintbrush" modifies bitmap values. The voxel data is converted to a polygonal surface using a "marching-cubes" algorithm; since the modifications to the voxel data are local, we accelerate this computation by an in ...

**Keywords**: 3D interaction, antialiasing, free-form modeling, sculpting, volumetric data

## 15 Session 6: Estimating differential quantities using polynomial fitting of osculating jets

F. Cazals, M. Pouget
Full text available: pdf(2.62 MB)     Additional Information: full citation, abstract, references

This paper addresses the pointwise estimation of differential properties of a smooth manifold S---a curve in the plane or a surface in 3D--- assuming a point cloud sampled over S is provided. The method consists of fitting the local representation of the manifold using a jet, by either interpolating or approximating. A jet is a truncated Taylor expansion, and the incentive for using jets is that they encode all local geometric quantities---such as normal or curvatures.On the way to using jets, t ...

**Keywords**: approximation, differential geometry, interpolation, meshes, point clouds

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**1** Shallow excluded minors and improved graph decompositions
Serge Plotkin, Satish Rao, Warren D. Smith
January 1994 **Proceedings of the fifth annual ACM-SIAM symposium on Discrete algorithms**
Full text available: pdf(894.68 KB)    Additional Information: full citation, references, citings, index terms

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1 **Real time responsive animation with personality**
*Perlin, K.;*
Visualization and Computer Graphics, IEEE Transactions on , Volume: 1 , Issue: 1 , March 1995
Pages:5 - 15

[Abstract]    [PDF Full-Text (956 KB)]    **IEEE JNL**

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2 **Optimizing the noise performance of broad-band WDM systems with distributed Raman amplification**
*Perlin, V.E.; Winful, H.G.;*
Photonics Technology Letters, IEEE , Volume: 14 , Issue: 8 , Aug. 2002
Pages:1199 - 1201

[Abstract]    [PDF Full-Text (235 KB)]    **IEEE JNL**

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3 **On distributed Raman amplification for ultrabroad-band long-haul WDM systems**
*Perlin, V.E.; Winful, H.G.;*
Lightwave Technology, Journal of , Volume: 20 , Issue: 3 , March 2002
Pages:409 - 416

[Abstract]    [PDF Full-Text (308 KB)]    **IEEE JNL**

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4 **Efficient design method for multi-pump flat-gain fiber Raman amplifiers**
*Perlin, V.E.; Winful, H.G.;*
Optical Fiber Communication Conference and Exhibit, 2002. OFC 2002 , 17-22 March 2002
Pages:57 - 59

[Abstract]    [PDF Full-Text (351 KB)]    **IEEE CNF**

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5 **On trade-off between noise and nonlinearity in WDM systems with distributed Raman amplification**
*Perlin, V.E.; Winful, H.G.;*
Optical Fiber Communication Conference and Exhibit, 2002. OFC 2002 , 17-22

March 2002
Pages:178 - 180

[Abstract]    [PDF Full-Text (352 KB)]    IEEE CNF

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## 6 Ultra-broadband Raman amplification with spatially diverse pumps
*Perlin, V.E.; Winful, H.G.;*
Lasers and Electro-Optics, 2002. CLEO '02. Technical Digest. Summaries of Papers
Presented at the , 19-24 May 2002
Pages:432 - 433 vol.1

[Abstract]    [PDF Full-Text (320 KB)]    IEEE CNF

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## 7 Non-photorealistic rendering using watercolor inspired textures and illumination
*Lum, E.B.; Kwan-Liu Ma;*
Computer Graphics and Applications, 2001. Proceedings. Ninth Pacific Conference
on , 16-18 Oct. 2001
Pages:322 - 330

[Abstract]    [PDF Full-Text (1044 KB)]    IEEE CNF

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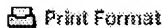○ Conference
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1 **Magnetostatic interactions between sub-micrometer patterned magnetic elements**
*Janesky, J.; Rizzo, N.D.; Savtchenko, L.; Engel, B.; Slaughter, J.M.; Tehrani, S.;*
Magnetics, IEEE Transactions on , Volume: 37 , Issue: 4 , July 2001
Pages:2052 - 2054

[Abstract]    [PDF Full-Text (58 KB)]    **IEEE JNL**

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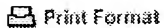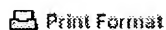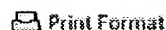
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1 **Electromagnetic scattering from skew-symmetric metallic grids**
*Christodoulou, C.G.;*
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| 2. | 2003 - 282712 | WIRING METHOD FOR CLOCK OF SEMICONDUCTOR INTEGRATED CIRCUIT AND SEMICONDUCTOR INTEGRATED CIRCUIT |
| 3. | 2001 - 245129 | IMAGE PROCESSING UNIT |
| 4. | 11 - 008311(1999) | SEMICONDUCTOR DEVICE AND METHOD FOR DESIGNING THE SAME DEVICE |
| 5. | 09 - 304030(1997) | INSTRUMENT FOR INSPECTING TERMINAL OF SEMICONDUCTOR PACKAGE |
| 6. | 09 - 008228(1997) | SEMICONDUCTOR INTEGRATED CIRCUIT AND ITS LAYOUT TECHNIQUE |
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1 MONOCRYSTALLINE THREE-DIMENSIONAL INTEGRATED-CIRCUIT
   TECHNOLOGY

   **Inventor:** MACCRISKEN JOHN E (US); WARNER       **Applicant:**
   RAYMOND M (US)
   **EC:** H01L21/203B; H01L21/74; (+5)              **IPC:** C23C14/34

   **Publication info: US2001002650** - 2001-06-07

2 DATA APPARATUS USING A LATTICE

   **Inventor:**                                     **Applicant:** IBM

   **EC:** G11C11/14; G11C19/08C6; (+1)              **IPC:** G11C19/02

   **Publication info: GB1522707** - 1978-08-23

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**1**    **Standard for perlin noise**

**Inventor:** PERLIN KENNETH (US)            **Applicant:**

**EC:** G06T11/00C                       **IPC:** G09G5/00

**Publication info: US2002135590** - 2002-09-26

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**1**   **CLOCK SKEW VERIFICATION METHODOLOGY FOR GRID-BASED DESIGN**
Inventor: HARITSA MANJUNATH D (US); SHARMA ANUP (US); (+4)   Applicant: SUN MICROSYSTEMS INC (US)
EC:                                             IPC: G06F17/50

Publication info: **EP1436738** - 2004-07-14

**2**   **Display apparatus using a wire grid polarizing beamsplitter with compensator**
Inventor: SILVERSTEIN BARRY D (US); MI XIANG-DONG (US); (+1)   Applicant: EASTMAN KODAK CO (US)
EC: G02B27/18; G02B27/28B; (+1)                  IPC: G02F1/1335

Publication info: **US2004114079** - 2004-06-17

**3**   **Improvements in Valve Operating and Governing Gear for Steam Engines.**
Inventor: FERRANTI SEBASTIAN ZIANI DE         Applicant: FERRANTI SEBASTIAN ZIANI DE
EC:                                             IPC:

Publication info: **GB190003536** - 1901-02-22

**4**   **Grid clock distribution network reducing clock skew and method for reducing the same**
Inventor: LEE DONG-HYUN (KR)                   Applicant:
EC: G06F1/10                                     IPC: G06F1/04

Publication info: **US2004017242** - 2004-01-29

**5**   **Deskewing global clock skew using localized DLLs**
Inventor: GAUTHIER CLAUDE R (US); TRIVEDI PRADEEP R (US); (+3)   Applicant: SUN MICROSYSTEMS INC (US)
EC: H03L7/081A1; G06F1/10; (+1)                  IPC: H03L7/06

Publication info: **US6686785** - 2004-02-03

**6**   **Projection display using a wire grid polarization beamsplitter with compensator**
Inventor: SILVERSTEIN BARRY D (US); MI XIANG-DONG (US); (+2)   Applicant: EASTMAN KODAK CO (US)
EC:                                             IPC: G03B21/14

Publication info: **US2003227597** - 2003-12-11

**7**   **CLOCK GRID SKEW REDUCTION TECHNIQUE USING BIASABLE DELAY DRIVERS**
Inventor: YEE GIN; OOI LYNN; (+1)              Applicant: SUN MICROSYSTEMS INC (US)
EC: G06F1/10                                     IPC: H03K19/003 ; H03K5/15 ; (+1)

Publication info: **WO03073618** - 2003-09-04

**8**   **Clock grid skew reduction using a wire tree architecture**
Inventor: THORP TYLER (US); YEE GIN (US); (+2)   Applicant:
EC: G06F1/10                                     IPC: G06F17/50

Publication info: **US2003101423** - 2003-05-29

**9**   **Tool for extracting and manipulating components of warping transforms**
Inventor: GEORGIEV TODOR G (US)                Applicant:
EC:                                             IPC: G09G5/00

Publication info: **US2003098872** - 2003-05-29

**10**  **Unified database system to store, combine, and manipulate clock related data for grid-based clock distribution design**
Inventor: HARITSA MANJUNATH D (US); SCHMITT RALF (US)   Applicant:
EC:                                             IPC: G06F9/45 ; G06F17/50

Publication info: **US2003074643** - 2003-04-17